V. Other P2 Opportunities

Healthcare facilities generate a number of hazardous chemical wastes. Hazardous chemical waste is not the same as regulated medical waste and should be managed accordingly. Consider reducing other toxic substances at the facility.

- Chemical Minimization Plan
  www.h2e-online.org/tools/chemplan.htm

Ethylene Oxide (EtO)

Ethylene Oxide or a mixture of EtO and chlorofluorocarbon (CFC) is used to sterilize medical devices. EtO is a probable human carcinogen, as well as being flammable and explosive. Additionally, CFC is an ozone-depleting chemical.

Relatively small amounts of EtO are used as a fumigant or in healthcare sterilization of surgical equipment and plastic devices that cannot be sterilized by steam.

- Massachusetts Toxics Use Reduction Institute Fact Sheet on EtO
  www.turi.org/community/PDF/eo.pdf

- Replacing Ethylene Oxide and Glutaraldehyde
  www.ciwmb.ca.gov/wpie/HealthCare/EPAEtOGlut.pdf

Formaldehyde/Formalin

Formaldehyde is a compound used in hospital laboratories as a tissue preservative. When present in the air at even very low levels (above 0.1 parts per million), it can cause a number of symptoms, including watery eyes, burning sensations in the eyes, nose and throat, nausea, coughing, chest tightness, wheezing, skin rashes, and other allergic reactions.

Hospital personnel are at risk, as eye contact can lead to severe burns that may not respond to eye washing. Some people develop allergic reactions through skin contact with formaldehyde solutions. Prolonged skin contact causes dermatitis and sensitization of the skin and the respiratory tract.

- Chemical Purchasing Practices
  www.c2p2online.com/documents/biomedicalP2information.pdf

- Formaldehyde-Free Products
  www.sustainablehospitals.org/cgi-bin/DB_Report.cgi?px=W&rpt=Haz&id=5

Glutaraldehyde

Glutaraldehyde has been used as a healthcare equipment disinfectant for over forty years. Initially, it was considered an effective alternative to the highly toxic, irritating, and carcinogenic disinfectant formaldehyde. However, occupational health problems associated with glutaraldehyde include skin irritation, asthma or possibly chemical sensitivity. Today, there are

alternatives that offer a high level of disinfection while protecting health care workers and the environment. That said, there are also questions being raised about the safety of some of the alternatives. As with most chemicals, the best option is to use less and use it safely.

- "10 Reasons to Eliminate Glutaraldehyde" fact sheet
  Glutaraldehyde Control in Hospitals
  Glutaraldehyde Use Survey
  www.sustainablehospitals.org/HTMLSrc/IP_Glutfactsheets.html

- Alternatives to Glutaraldehyde
  www.sustainablehospitals.org/cgi-bin/DB_Report.cgi?px=W&rpt=Haz&id=8

Xylene

Xylene is used in histology and cytology laboratories in anatomic pathology departments. Xylene is a central nervous system depressant and may also cause lung damage. High vapor concentrations may cause headache, nausea, dizziness, drowsiness, and confusion. Xylene can cause skin irritation and is also a possible reproductive hazard - it may cause fetotoxicity, based on animal information.

- Waste Reduction and Disposal Options for Specific Hospital Wastes
  www.p2pays.org/ref/01/00239.pdf

- Xylene-Free Products
  www.sustainablehospitals.org/cgi-bin/DB_Report.cgi?px=W&rpt=Haz&id=6